a skin of the latter before me, which measures from the nose to the tail 4 feet 5 inches, the width of the skin being 2 feet 8 inches; while that of the Black Tiger, which is half an inch less in size, measures in width 2 feet 10¼ inches. This may arise from the skin being more stretched; it proves nevertheless the strong make of the animal. I do not observe the tawny spot above each eye mentioned in my description of a skin from a similar animal given in the 'Annals' (iv. p. 325); this spot may vanish with the more advanced age of the animal."

The next journey which our traveller, at the date of his letters, was about to undertake, would last for a period of from eighteen months to two years, the expedition proposing to winter at Pirara.

Mr. Forbes.—Letters received from Mr. Forbes, dated Paros, Sept. 26th, inform us that he is successfully prosecuting his investigations among the Greek islands.

BIBLIOGRAPHICAL NOTICES.

A Manual of the British Algæ. By William Henry Harvey, Esq. London, 1841. 8vo. Van Voorst.

We hail with pleasure another of Mr. Van Voorst's excellent publications on natural history—A 'Manual of the British Algæ,' by Mr. Harvey. The author remarks in the Introduction, p. 53,

> "The want of a work in the English language, entirely devoted to the British Algæ, in which fuller descriptions should be given than the scope of Hooker's 'British Flora' admitted of, and in which all the known species should be included, has long been felt by lovers of this branch of botany. Had my friend Dr. Greville completed, as was once his intention, his admirable 'Algæ Britannicæ,' no room would have been left for my humble labours, nor should I for a moment wish to take the subject out of such able hands. But his work unfortunately stopped short with the '*inarticulate*' tribes, nor has he at present any intention of resuming it. The task has consequently fallen on my shoulders, and my object will be gained and my ambition fully satisfied, if, in the following pages, I have succeeded in affording any assistance to the researches of my fellow-students. I could have wished, and indeed had intended, that the work should be illustrated with figures, at least of the genera; but my limited stay in Europe did not afford time to prepare them, and it does not now appear desirable to delay the publication till they could be got ready. However they might have added to the beauty of the book, the student will experience little loss by their omission who takes this MANUAL for what I wish it to be, a companion to the 'ALGÆ DAMNONIENSES, *published and sold by Mary Wyatt, dealer in shells, Torquay*;' a most important work, now extending to four volumes, with a Supplement, composed of *specimens* of 234 species, beautifully dried and correctly named. These volumes furnish the student with a help, such as no figures, however correctly executed, can at all equal—Nature's own pencil illustrating herself."

Mr. Harvey's Manual is got up in the style and typography of the 'English Flora' of Sir J. E. Smith, and will range with it as a supplementary volume.

That a work such as the one now before us, embodying all the species added to our catalogue since the publication of the 2nd vol.

of the 'British Flora' (or 'English Flora,' vol. v. part 1.), the 'Flora Hibernica,' and Berkeley's 'Gleanings of British Algæ,' was very much required, will at once be evident when we enumerate the great accessions made to this most attractive department of our native botany. These are really most surprising, when it is considered that the works just named have all been published within the last very few years.

We have in this Manual thirty species described for the first time —these are, three *Ectocarpi*, a second species of *Myriotrichia*, a *Nitophyllum*, a *Polysiphonia*, a *Ceramium*, four *Confervæ*, a *Scytonema*, a *Calothrix*, three *Palmellæ*, a *Nostoc*, a *Meloseira*, a *Styllaria*, a *Gomphonema*, seven *Schizonemæ*, and three *Cymbellæ*.

Eleven species before known only as foreign, and belonging to as many genera, are for the first time added to the British flora,— they are *Laminaria fascia*, Ag., *Mesogloia moniliformis*, Griff. (*M. attenuata*, Ag.), *Polysiphonia formosa*, Suhr., *Callithamnion barbatum*, Ag., *Thorea ramosissima*, Bory., *Conferva refracta*, Ag., *Hydrurus Ducluzelii*, Ag., *Hygrocrocis Rosæ*, Ag., *Meloseira varians*, Ag. ?, *Styllaria bidentata*, Ag., and *Schizonema ramosissimum*, Ag. Ten species, announced in different scientific periodicals since the publication of the three works just alluded to, here for the first time, in a consecutive work on the British Algæ, fall into the ranks in systematic order. The genera *Thorea* and *Hydrurus* are published for the first time as British, whilst *Aphanizomenon* and *Anabaina* make their earliest appearance in a systematic work upon our Algæ. A new genus which he calls *Eutomia* is proposed by the author for the *Echinella rotata*, Grev., and *Ech. oblonga*, Grev.; and he proposes to substitute *Helminthocladia* for *Trichocladia* of the 'Flora Hibernica,' in consequence of the latter so nearly approaching *Trichocladus* in sound. The much-disputed plant lastly named *Delesseria alata*, var. *β. angustissima* ('Brit. Fl.' vol. ii. p. 286), is raised to the rank of a *species* by the name of *Gelidium ? rostratum*, but it still remains a desideratum to what genus it belongs!

What will perhaps be almost equally interesting to many of the lovers of this delightful portion of our flora, will be found in Mr. Harvey's volume in the additional localities enumerated for species with which they have already become familiar; and here we particularly mark the progress that has been made since the excellent introduction to Greville's 'Algæ Britannicæ' appeared—genera and species there particularized as known only to the British Islands, from being found on the southern shores of England, being now ascertained to range to the northern coasts of Ireland.

We are greatly pleased with the comprehensive manner, the entireness with which the general subject of Algæ is brought before us in the Introduction. This extends to fifty-seven pages, and affords a most gratifying illustration of the addition made to our knowledge as the stream of time rolls on. Already in our language have Dr. Neill in his Encyclopædia article on Fuci, and Dr. Greville in the introduction to his 'Algæ Britannicæ,' treated admirably of the general subject; but here we have it brought down to the present period, and by a botanist, than whom perhaps no one living is better suited to the task, both in regard to his having been of late years the chief describer of the collections of Algæ brought to this country from all quarters of the globe, and to his study of the living plants in a subtropical as well as a temperate climate. At p. 15 of the Introduction we have the personal observation of the author on the *Sargassum* or " Gulf-weed." He remarks :—

"I have made the voyage three times, and only once met with sea-weed in sufficient quantity to claim any attention. It did not then occur in strata resembling fields, but rather in ridges, from ten to twenty yards broad and of great length, stretched across the sea. The species invariably found in these was *S. bacciferum*. Of a large quantity that we dredged up for several successive days, not a particle belonged to *S. vulgare*; and I am much inclined to suspect that most, if not all, of the stories related by voyagers as of that species, belong to *S. bacciferum*, a plant which has never been found in any other situation than floating about in the deep sea; whereas *S. vulgare* (the *Fucus natans* of Turner) is well known in many tropical countries to grow on the rocks, within the reach of the tide, like others of the genus. It is therefore much to be regretted that the name of *natans* was not retained for *S. bacciferum*, to which it is chiefly, if not only, applicable. Authors who have written on this *Fucus* have much disputed, both respecting its origin and whether it continues to grow whilst floating about. Nothing at all bearing on the former question has yet been discovered; for though species of *Sargassum* abound along the shores of tropical countries, none exactly corresponds with *S. bacciferum*. That the *ancestors* of the present banks have originally migrated from some fixed station is probable, but further than probability we can say nothing. That it continues to flourish and grow in its present situation is most certain. Whoever has picked it up at sea, and examined it with any common attention, must have perceived, not only that the plants were in vigorous life, but that new fronds were continually pushing out from the old, the limit being most clearly defined by the *colour*, which in the old fronds is foxy-brown, in the young shoots, pale, transparent olive. But how is it propagated? for it never produces fructification. It appears to me that it is by breakage. The old frond, which is exceedingly brittle, is broken by accident, and the branches, continuing to live, push out young shoots from all sides. Many minute pieces that I examined were as vigorous as those of larger size, but they were certainly not seedlings, and appeared to me to be broken branches, all having a piece of *old frond*, from which the young shoots sprung. As the plant increases in size it takes something of a globular figure, from the branches issuing out in all directions as from a centre. On our own shores we have two species analogous to *S. bacciferum* in their mode of growth, namely, *Fucus Mackayi*, and the variety *β. sub-costatus* of *Fucus vesiculosus* (*F. balticus*, Ag.). Neither of these has ever yet been found *attached*, though they often occur in immense strata; the one on the muddy sea-shore, the other in salt-marshes, in which situations, respectively, they continue to grow and flourish; and it is remarkable that neither has ever yet been found in fructification, in which respect also they strikingly coincide with *S. bacciferum*. And if it be hereafter shown that *F. Mackayi* is merely *F. nodosus*, altered by growing under peculiar circumstances, may it not be inferred that *S. bacciferum*—which differs about as much from *S. vulgare* as *F. Mackayi* does from *F. nodosus*—is merely a pelagic variety of that variable plant?"

That *Fucus Mackayi* is a legitimate species, or anything more than a remarkable variety of *F. nodosus*, we never could believe, and have been further strengthened in this opinion by finding near one of the localities noted for *F. Mackayi*, an equally anomalous state of that plant (at least, as we considered), when it appeared growing in dense round balls of various size, but generally such as could be spanned by the hands—the fronds were extremely narrow, vesicles generally, and receptacles entirely wanting.

At p. 44 (Introduction) it is remarked, under the head of "*uses*" of Algæ, that—"On many of our coasts, as along the west coast of Ireland, the poorer classes are almost entirely dependent for the cultivation of their potatoes on the manure afforded by their rocky shores and frequent gales of wind." Of this we had a notable example when at the town of Galway some years ago. Turf-boats were discharging their cargoes of sea-weed (*Laminarieæ*) at the quay; and on inquiring whence it was brought, we learned, from Slyne Head, a place distant between fifty and sixty miles, and that some of the purchasers were, for the purpose of manure, about to convey it inland thirty miles!

At p. 36 the author observes, with reference to a passage extracted from the 'Algæ Britannicæ'—"Several of these [species], it is worthy of remarking, which are in England confined to the coasts of Devon and Cornwall, are found in Ireland along the shores of Clare and Galway, where the *Land Flora*, it will be remembered, contains several species otherwise peculiar to the South of Europe." There is, however, this important difference to be noted; that, while the *Land Flora* of the west of Ireland produces a few of the south European species which are not found elsewhere in the British Islands, and are their most northern stations, the *Marine Flora* has not presented us with any one of the southern plants which are not found upon other parts of the British shores. Mr. Harvey is silent upon one point which we could have wished he had adverted to, namely, the causes of the comparatively gigantic size that species attain in particular localities. At p. 41 it is remarked that—"The *Delesseriæ* appear in greatest perfection about 52° and 53°, those from the north of Ireland being much larger than individuals of the same species from the southern coasts of England." And again—"The *Nitophylla* are also chiefly northern, six being found in the Atlantic basin, and in greatest perfection on the north coast of Ireland." Now we cannot believe (and perhaps the author does not intend that we should) that the mere difference in latitude between the south of England and north of Ireland, or more strictly speaking, the county of Antrim, can so affect the size of these plants. We are instead rather disposed to attribute the magnitude which they attain in the latter locality, at least in part, to the limestone or chalk on which they grow, corroborative of which it may be mentioned, that on the different geological formation of the neighbouring coast of Down, the same species do not exceed one-third of the size. We have remarked too, though in a less degree, a difference of the same kind between the northern and southern shores of the Isle of Wight, the chalk of the latter producing examples of the same species incomparably finer and larger than the different formation of the other portion. The influence of different rocks upon Algæ, as affecting their distribution, growth,

&c., is a highly interesting inquiry, which has not yet met with the attention it deserves. It would be a pleasure to us to comment on many parts of Mr. Harvey's Introduction, but we must spare our readers, and refer them to what will be found much more to their taste—the book itself. Here they will find the subject amply discussed under the different heads—definition of Algæ; their colour and its characteristics; structure; propagation; geographical distribution; uses; the species resorted to for human food, for medicine, the fine arts, &c.

We have evidence of the care bestowed by the author upon the work, in now for the first time separating plants hitherto overlooked as identical, and again, bringing others together which had no claim to rank as distinct species. In both respects we are much gratified to find our own views very generally confirmed. We will look to some of these points. The second species of *Myriotrichia* we are pleased to see, having been long under the impression, (but without critical examination,) that the form now described as *M. filiformis* was distinct from *M. clavæformis*. *Nitophyllum punctatum* and *N. ocellatum* are judiciously brought together—in the same specimen we occasionally find both united. *Rhodomenia ciliata* and *R. jubata* run so into each other, that we are not satisfied of the propriety of keeping them distinct. The different seasons at which they are said to bear capsules—the former in winter, the latter in summer—*seems* a good reason for so considering them; but this is not a constant character, as we have found typical examples of *R. ciliata*, with fronds three-fourths of an inch in breadth, producing fruit plentifully throughout the month of August. These were procured on the southern coast of the Isle of Wight, where the species grows in remarkable luxuriance. *Rhodomenia sobolifera* we can hardly consider otherwise than a form of *R. palmata*: we have gathered it in profusion in two British localities, in one of which, both on stones, stems of *Laminariæ*, &c., it takes the place of the ordinary *R. palmata*, which is nowhere to be found. *Ceramium Agardhianum*, or rather *C. Deslongchampii* (see note to p. 100), now for the first time noticed in a British work, has always seemed to us so different from *C. diaphanum*, particularly that of 'English Botany,' that we kept them separated in our herbarium. Mr. Harvey believes them however not to be specifically distinct.

Need we dwell on the unparalleled advantages our "island home" presents for this attractive study, or observe, that whilst many of our flowering plants are unfortunately, when dried, but "mummies," as has been well observed, of their former selves, and generally in beauty yield to those of warmer climes, most of our Algæ retain in the Hortus Siccus their pristine loveliness, and in delicacy of form and splendour of colouring rival those of any country on the globe? Torn from their places of growth, and scattered abroad by the waves, they inspire

> "A rapture on the loneliest shore."

But it is in their natural places of growth that they are especially to be admired. How beautiful to gaze upon the variety of foliage waving in the basins of the rocky coast, when rendered approachable by the retiring tide! and here we shall occasionally perceive the fronds of the *Chondrus* tipped with a "paly flame" of bluish phosphoric light. A little deeper, we may sail over beds of *Cystoseira ericoides* clothed with iridescence so as strongly to resemble a tract of heath with its dew-drops presenting the hues of the rainbow at early sunrise. Still deeper appear the woods, as they may comparatively be called, of the *Laminariæ* with numerous fishes moving gracefully about, or quietly sheltering beneath their palm-like umbrage; whilst amid hosts of "creatures of the element," the beautiful sea-urchin conspicuously presents itself, moored to their stems or leaves. Even from their annihilation, from the smoke of the kelp-fire, the wild marine landscape occasionally derives its only image of softened beauty. Often on the lofty mountain's top, when enraptured with the majesty of nature, has the column of smoke, rising at a distance above the bleakest and least frequented shores, pointed out to us the presence of man and his labours, when none else was visible.

But it is not necessary to go to the sea for Algæ. In the fresh-water and on the land—nay, within our houses—they are likewise to be found.

> "The stream that with a thousand crystal bubbles
> Bursts from the bosom of the desert rock
> In secret solitude,"

displays them on the first pebbles that it moistens; and in all our waters, from the petty drain to the expansive lake, do they occur, and many species are of considerable size and beauty. But the most minute sometimes enact the greatest part, as appears in former volumes of these 'Annals.' Glaslough (or Green-lake) in Ireland derives its name, according to Dr. Drummond, from a minute *Oscillatoria* that colours it*; and more recently Mr. Thompson has shown that an Alga belonging to a different tribe, and whose full length is but one-fortieth of an inch, is distributed in such quantity through a lake near Belfast, as to impart to the whole of its waters a dull green hue for a portion of every year†.

The reputation of Mr. Harvey as a botanist, and one who has especially studied the class of plants which forms the subject of the volume before us, is so high, that it would be quite supererogatory to dwell upon the excellent manner in which every part is executed. Again do we hail with sincere pleasure the appearance of this Manual, the first work which, containing full descriptions of every species, has been devoted solely to the British Algæ. A work upon our Mosses—'Muscologia Britannica'—reached a second edition long since: one treating of our Fungi has been some years in existence; and we hope, that at no very distant day, the volume at present under consideration will be followed by one illustrative of our native Lichens.

---

* Annals of Nat. Hist., vol. i. p. 1.

† *Id.*, vol. v. p. 75.